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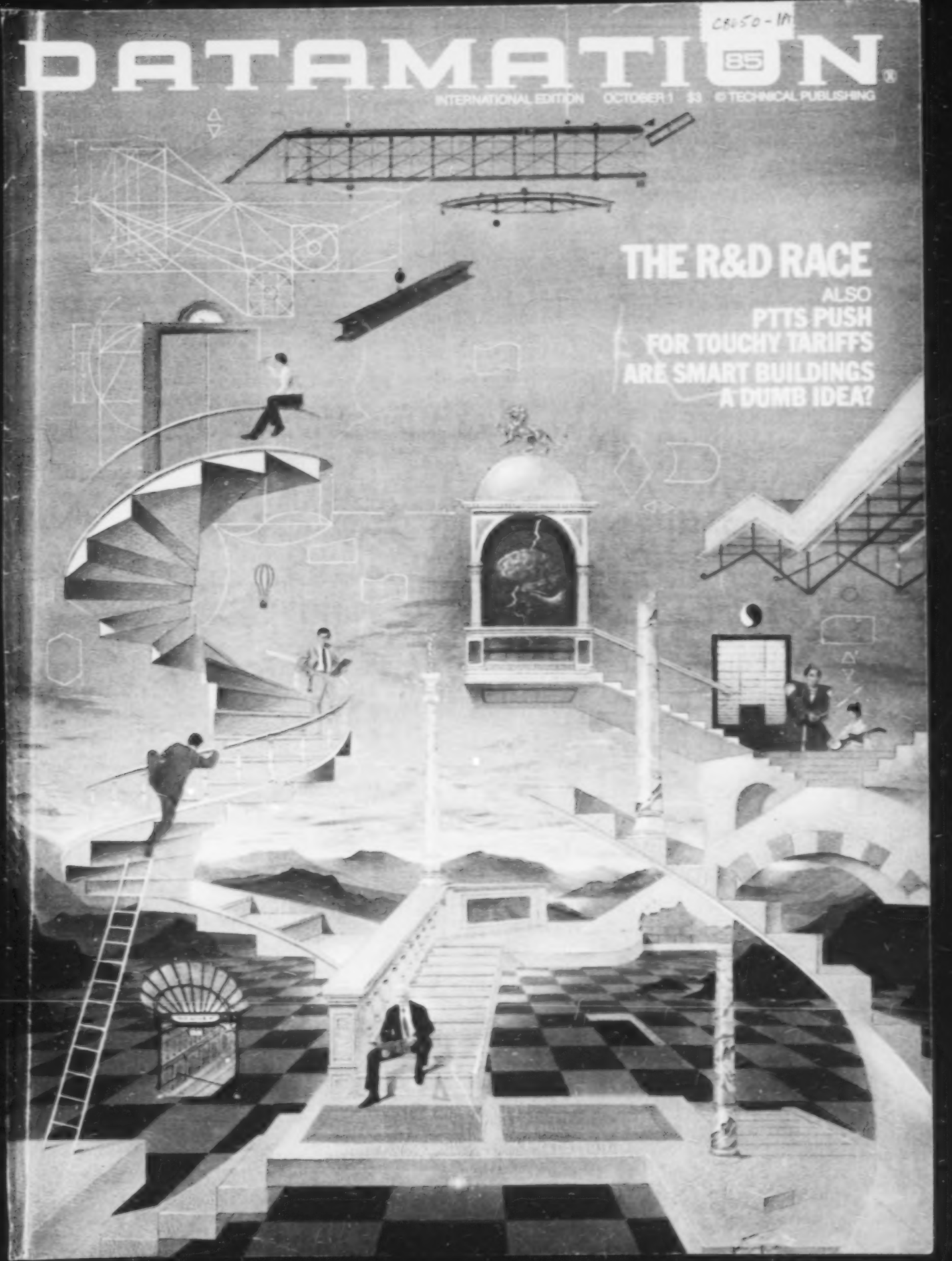

THE R&D RACE

ALSO

PTTS PUSH FOR TOUCHY TARIFFS

ARE SMART BUILDINGS A DUMB IDEA?

DATAMATION

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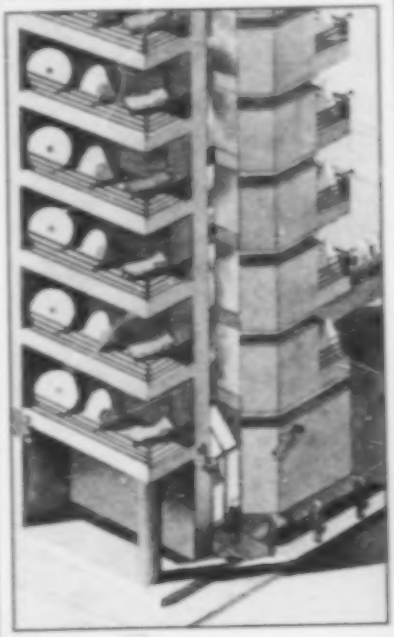

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IN FOCUS

S. AFRICA: PULLING THE PLUG

U.S. sanctions on computer sales may do little more than open markets for other suppliers.

by Willie Schatz

Mid-September's presidential order banning U.S. computer sales to some of South Africa's apartheid government agencies was a political victory for the Reagan administration, a defeat for the Congress, a nonevent for the U.S. computer industry and the South African economy—and maybe the chance of a lifetime for computer firms in Europe and elsewhere.

The order, which at press time found Congress in a scramble to pass stronger legislation, has also brought computers and the dp industry's role in apartheid more sharply into focus. In South Africa, computerization has helped everything from banking to passport control—among the most hated of apartheid's control tools.

While the U.S. is doing more business in South Africa than any other country—it has 33% of the purchasing power, according to Rudi Bouwer, head of Siemens' South African computer division—it's not the only nation with a large financial stake in South Africa. British, West German, and Japanese companies among others also are established strongly there (see Fig. 1).

The fastest-growing computer exporters to South Africa are the Japanese. As Fig. 2 points out, Japanese firms have doubled new business sales in the region since 1982. But because Japanese computer companies have been extremely quiet about their exports to South Africa, Japanese involvement there has had little publicity. In one case involving Hitachi, quiet may be too genteel a term. Persetel, one of several computer companies within the giant South African Barlow Rand group, came from nowhere in 1980 to seventh last year in number of mainframe installations (see Fig. 3). It's the fastest-growing computer company in the country and also seventh in minicomputer installations, as shown in Fig. 4.

Persetel's hardware is made in Japan.

"I understand the machines come straight from Hitachi, and I am sure that Hitachi knows what is going on," says Derek House, major accounts consultant for ICL South Africa. "After all, many Persetel users and potential users, including government departments, have taken trips to Japan to see the Hitachi factories." Among the tourists were reps of Escom, South Africa's national electric utility.

When asked about its involvement with Persetel, an Hitachi spokesperson told DATAMATION, "We are not selling our computers directly to South Africa. We're not familiar with Persetel's activities in South Africa. Persetel is not one of our oem customers. At present, we have no business activities in South Africa. We also have no plans to start exporting computers directly to South Africa should American companies withdraw from that market."

After being confronted with statistics regarding Japanese exports to South Africa (see Fig. 5) and other evidence uncovered by DATAMATION, Hitachi reversed its position.

"Recently we learned we are shipping our computers to South Africa," a company spokesperson said in Tokyo. "We began to ship them there directly based on requests from BASF [the company's West German oem]. BASF asked us to ship directly there. Based on our contract with BASF, we provide computers according to their instructions. All our future sales depend on BASF."

Although the Japanese have been given the official designation "honorary whites" by South Africa, there is a growing suspicion among South African users that Japan will follow the U.S. and impose some sanctions. Its clear though that they are in no hurry to do so.

"ICL, for one, is going to do well out of this because of the stance of the British government."

Of Japan's big three, only Hitachi admits doing business in South Africa. A Fujitsu spokesperson claims the company doesn't have any direct business in South Africa, but concedes that "we don't always know where our product is going through oem channels. Maybe some of our products are exported to South Africa through Siemens and ICL."

NEC says it has no business in South Africa, although, like every other computer company, it concedes it can't control what other companies do with NEC components. NEC also indicates that doing business in South Africa would jeopardize its sales in other African countries.

It will be a good deal more difficult for U.S. computer companies to continue exports to South Africa than it has been for Hitachi if the U.S Congress gets its bill passed. The sanctions contained in the Anti-Apartheid Act would prohibit

ILLUSTRATION BY ALEX ROMANOWSKI

FIG. 1

SOUTH AFRICA'S LEADING HARDWARE SUPPLIERS

($ MILLIONS*)

COUNTRY	1982	1983	1984
U.S.	168	171	185
U.K.	86	33	45
Japan	22	28	46
W. Germany	35	33	45
France	19	28	26
Italy	23	14	17

*Figures include cpu systems, peripherals, parts, and service.
Source: John Aczel

FIG. 2

GROWTH IN NEW BUSINESS EXPORTS TO SOUTH AFRICA 1982–1984

Japan	100%
W. Germany	27
U.K.	5
U.S.	0

Figures include total sales growth minus portion of sales for parts, maintenance, and service.
Source: John Aczel

the sale of U.S. computers, software, or goods, or technology intended to service computers, from being exported, directly or indirectly, to or for use by nine entities of the South African government. Those products may be exported to a governmental entity only if the services provided will benefit nonwhites or both whites and nonwhites, and a system of end-user verification is in effect to ensure the computers will not be used for any function of a proscribed agency. The restrictions apply only to exports with a contract value of $100,000 or greater. The restrictions may be waived by the Secretary of Commerce if it is determined that the computer sale to an entity serving whites only is for humanitarian purposes.

As tough as these sanctions are, they are significantly weaker than the original House bill, which would have banned all computer sales except to primary and secondary schools and fined corporate violators up to $1 million. Individuals would have gotten away with not more than $50,000 in fines, but they could have spent up to five years in jail. Those criminal penalties are retained in the compromise bill.

"I don't see this as being merely symbolic or counterproductive," says Sen. Frank Lautenberg (D-N.J.), the founder and former chief executive officer of ADP Corp. "Without the U.S. picking up the mantle of responsibility on moral leadership, we have nothing. I see us standing for morality and human rights by doing this. At some point you have to stand for something besides profits."

FIG. 3

SOUTH AFRICA'S MAINFRAME SCORECARD

COMPANY	1979	1980	1981	1982	1983
IBM	101	119	142	148	169
ICL	55	65	64	74	81
Burroughs	43	44	51	55	55
NCR	11	14	16	16	16
Sperry	17	19	21	24	27
CDC	14	15	13	12	13
Persetel	—	—	6	16	29
Other	—	—	2	3	4
TOTAL	241	276	315	348	394

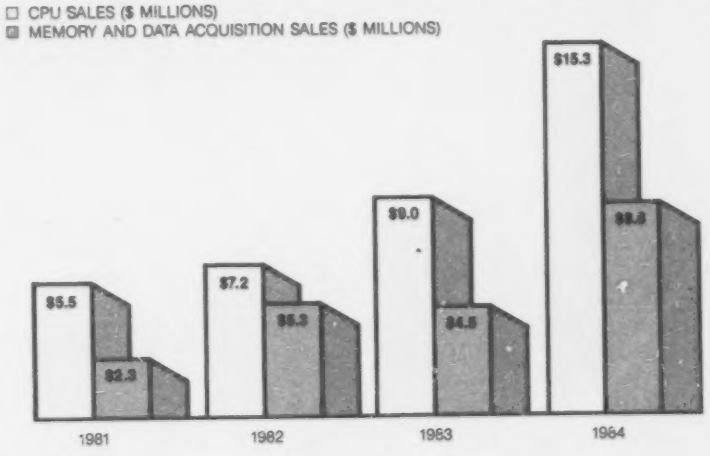
FIG. 4

SOUTH AFRICA'S MINICOMPUTER INSTALLATIONS

COMPANY	1979	1980	1981	1982	1983
IBM	88	107	116	116	112
ICL	79	112	149	166	168
Burroughs	53	79	90	93	91
NCR	25	45	55	65	97
Sperry	26	25	30	32	28
CDC	0	0	0	0	0
Persetel	0	0	0	0	0
Other	103	136	166	181	250
TOTAL	374	504	606	653	746

FIG. 5

JAPAN'S COMPUTER EXPORTS TO SOUTH AFRICA



Faced with the real possibility of no new business in South Africa, U.S.-based computer companies marshaled their forces and lobbied strongly for the Senate's version of the antiapartheid bill, which was much milder. Principal among the U.S. computer lobbyists were Control Data, IBM, and Hewlett-Packard. These

companies did their work so assiduously that Rep. Howard Berman (D-Calif.), the author of the computer ban, said he was "disturbed" by the computer companies' active lobbying.

"To be fair, these companies argued from the beginning that they did not wish to sell new computers to South Africa's military, police, or apartheid-enforcing agencies," Berman said on the House floor. "But they did want to continue to service and provide software for computers previously sold or leased to these agencies. They insisted on continuing to sell to other agencies of the South African government—even those which do not in any way benefit blacks.

"As far as I know, computer industry spokesmen were the only business representatives who mounted an active campaign against the sanctions in this bill. Their actions are surprising, given that their product contributes so directly to apartheid and sales to the South African government represent such a tiny fraction of their worldwide profits."

It's not just the government. Barely any of their South African business is visible on those and other companies' balance sheets. Hardware purveyors such as IBM, Sperry, CDC, and HP acknowledge that their South African operations account for less than 1% of their total revenues. That's $51 million for HP, $44 million for CDC, and about $450 million or so for IBM. The same percentage holds true for software companies such as Cullinet, Software AG, and Pansophic.

But while the $450 million or so that IBM generates doesn't weigh much on the global scale, it's a good deal of money in South Africa, where IBM is number one.

Since only one sixth of those dollars come from sales to the South African government, IBM and every other company doing business with the government will not be affected significantly on the revenue side.

"Sanctions would have no effect on what IBM is doing," says company spokesman Rich Coyle. "We don't sell to South African organizations that might use computers for repressive purposes. We would continue to be able to operate in South Africa."

Amen, say other companies. If they feel the sanctions all, it won't be more than a mosquito bite.

"It's been tough in the last few years," admits HP spokeswoman Barbara Kommer. "South Africa [operations] have been less profitable than the company as a whole."

South Africa may mine much of the world's gold, but it doesn't seem to be much of a gold mine for U.S. computer companies doing business there—despite a growing demand for imports of data processing equipment (see Fig. 6). According to CBEMA (the Computer and Business Equipment Manufacturers Association), U.S. computer exports to South Africa for the first half of 1985 were $67.8 million, down 24.9% from the same period in 1984. They had risen 7.9% from 1983 to 1984.

"These sanctions won't have a major impact," HP's Kommer continues. "They're not much different from the current Department of Commerce regulations on whom we can and can't sell to. They'll be marginally more restrictive."

Nevertheless, while these companies went to great lengths to convince Rep. Berman and others that they weren't doing business with the outlawed government agencies, there's considerable evidence indicating otherwise.

"More than any other single technological advancement, the computer has fostered the concentration of administrative power in the hands of South Africa's white elite," charges *Automating Apartheid*, a book written in 1982 by the National Action Research on the Military Industrial Complex group (NARMIC). NARMIC is part of the American Friends Service Committee, a Quaker organization working toward disarmament. The book continues, "Since the days of the first automated population register, computer use has spread to virtually every government department, playing a key role in Pretoria's ability to manage the African, Asian, and Indian populations.

"The IBM computer system used by the [South Africa] Department of Interior facilitates the very system of racial classification that undergirds apartheid. It also provides an efficient method of tracking South Africans' movements for security purposes."

The South African Defense Force (SADF), the country's army, is also apparently relying on IBM as a key supplier. NARMIC says that by the time regulations were issued in 1978 restricting direct sales of U.S.-made hardware to South Africa, IBM had supplied the SADF with a 360 at its Simonstown Naval Installation and was leasing out another 360 and two 370s.

NARMIC also says that there are two 370/158s with significantly upgraded capacity at the Centre for Computing Services (CCS) of the Council for Scientific and Industrial Research (CSIR, the South African weapons research organization, whose activities would fall under the Anti-Apartheid Act). According to Tom

FIG. 6

SOUTH AFRICA'S GROWING DP IMPORTS

($ MILLIONS)

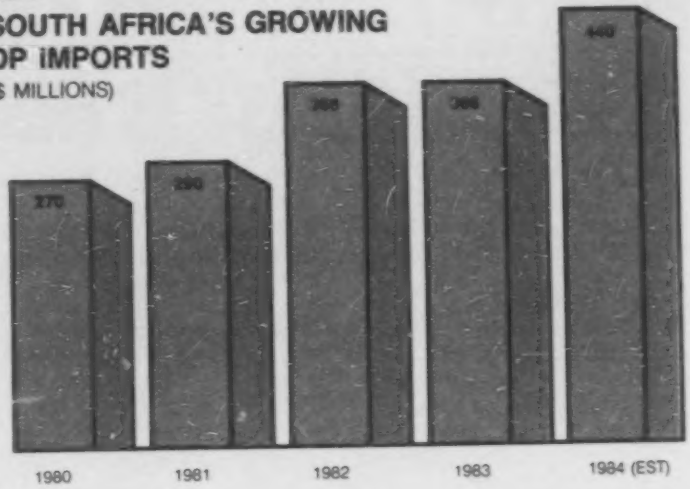


FIG. 7

SOUTH AFRICA'S INFORMATION PROCESSING MARKET PROJECTIONS

($ MILLIONS*)

CATEGORY	1985	1990
Computer systems	342	634
Personal computers	94	288
Packaged software	63	261
Computer services	112	234
TOTAL	611	1,417

*Based on exchange rate of $0.45 per rand (Sept. 4, 1985)

Conrad, project director of NARMIC, CSIR and ARMSCOR are the backbone of South Africa's military establishment. Coyle says, "To the best of our knowledge, there is no IBM equipment at the South African Defense Force or the CSIR."

Both IBM and Control Data are cited as training CSIR personnel. Renowned for the social conscience of its founder, William Norris, CDC has apparently not practiced what Norris preaches. CDC has a Cyber 170/750, 17 peripheral processors, and 80 terminals at CCS. With the correct programming, the Cyber is capable of modeling nuclear explosions. Control Data declined to comment on the installation.

In 1980, CDC manufactured nine 9/80 disk drives that its British subsidiary supplied to ICL, which then incorporated them into the mainframe it supplied to South Africa's national police force. The U.S. Department of Commerce fined ICL and its South African subsidiary $15,000 for reexporting U.S. equipment to the military. CDC wasn't fined, but spokesman Dick Reid, interviewed by the *Twin Cities Reader* newspaper, agreed that "there was a problem in this case."

Not exactly Control Data's finest hour. Neither was the company's 1980 promotion of an Urban Planning Package software program among South African government employees. When the company learned that the marketing of the program had been reported at an international United Nations seminar on the arms embargo, it claimed that the package had been withdrawn from South Africa.

Asked to comment on these allegations, Control Data wouldn't. But it did issue the following statement: "The appropriateness of CDC's work in South Africa has not been altered by the recent unrest and accelerating friction. Though we have been greatly saddened by the violence and state of emergency, we are hopeful that the political reforms so desperately needed in South Africa will come from the renewed sense of urgency surrounding the South African situation.

"At CDC South Africa, we continue to serve the need for education and training in job development for black South Africans. This work has not been interrupted during the recent unrest and continues to be of critical importance to prepare black South Africans for equal participation in the economy of a South Africa that is free from the abhorrent apartheid system."

According to Congress, its sanctions are designed to hasten that day. Having fought its war in the House and Senate, the computer industry seems ready, although not necessarily willing, to accept the congressional version.

"The original House bill would have put everybody out of business," says Hugh Donaghue, CDC's vice president for international trade and government relations. "That's why we presented our views so strongly. Why do it to everybody? A lot of us are helping blacks through our programs.

"With no more sales or servicing or not even being allowed to sell spare parts, we all would have been out of business," Donaghue continues. "Then all you have is the British, French, and Japanese standing in the wings waiting to take over."

Well, not the French. At least, not officially. The government has announced a ban on new investment in South Africa—not another franc.

"All you do is stop the good things. I'm worried about the computer community."

Despite the current turmoil, the business of South Africa is still business. But the sanctions, no matter how symbolic, may be enough to make users and customers cast their eyes and wallets in other directions. Like east, for example. Or perhaps north, across the Mediterranean Sea. Britain and West Germany have already announced unequivocally that they won't apply sanctions. Japan hasn't revealed its position yet. The Japanese government has given no clear guidelines or instructions regarding direct shipments to South Africa.

So the Japanese, British, and West Germans may be rushing in where U.S. companies fear to—or aren't allowed to—tread.

"There are large users with installations of U.S equipment now running around looking for other suppliers that can provide long-term support," notes ICL's House. "ICL, for one, is going to do well out of this because of the stance of the British government."

"Many users are conscious that the U.S. companies may have a problem in the future," says John Miller, general manager of ICL computer sales in South Africa. "So far, however, there has been little follow-through effect resulting in changes of supplier. But there's a feeling that because European companies are not likely to be subject to sanctions that they are in some ways a more dependable source.

"There is a view that the lines of supply for Persetel are secure because the machines come via BASF in Germany," says Miller. "That is better than coming direct from Japan, because people feel the Japanese vendors may be coerced or encouraged to follow the U.S. lead with sanctions."

"The critical test is whether we can persuade our trading partners and allies to go along with us," says Sen. Lautenberg. "We've got to lean a hell of a lot heavier on Japan and our West European partners to participate more with us. We'll call the world's attention to who the good guys are and who they aren't."

When—or if—the U.S. leans, the Japanese may well fall in line. The Europeans, on the other hand, are not likely to follow the U.S. lead so readily, if at all.

The crisis in South Africa and the potential effects of U.S. sanctions have already dealt that nation's dp strength a heavy blow. Despite healthy projections for the South African information processing market during the period 1985 to 1990 (see Fig. 7), South African trade journals are full of stories about "the brain drain," as more and more qualified people are leaving the country to ply their trade in calmer waters.

"If dp people start leaving the country in large numbers, it is going to have a very bad effect on the local industry," says Peter Steyn, managing director of Computer Personnel Limited in Johannesburg and a committee member of the South Africa Computing Services Association. "Even in the good times, we have a 20% or 30% shortage of the right dp skills in South Africa, and when people leave, it will certainly aggravate what is already a bad situation."

"There's a very fine computer community in South Africa, most of which is antiapartheid," says Herb Grosch, former president of the Association of Computing Machinery and former director of the Institute for Computer Science and Technology at the National Bureau of Standards. "There's no way to make sanctions tight enough to hurt the military and police. All you do is stop the good things. I'm worried about the computer community. If the U.S. and Europeans turn their backs on it, the good things it can do will be cut away."

So will many of their supplies, which sanctions will make prohibitively expensive. For dp users in the land of the Cape of Good Hope, good hope may well be all they have left. ◉

Also contributing to this story were European managing editor Paul Tate in London, Tokyo bureau manager Thomas Murtha, and Gail Purvis in Johannesburg.

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Business with the bloc can pay off if high-tech traders are patient and play by the rules.

ENTERING THE EASTERN ZONE

by David Hebditch and Heikki Auvinen

For Western dp suppliers entering the Eastern Zone, money and patience are the rules of the road. The complex trade restrictions in the West coupled with the bureaucratic red tape in the East are roadblocks that must be overcome by high-tech companies hoping to do business with the Eastern Bloc.

That business could be very lucrative indeed. The Eastern Bloc is one of the world's largest untapped markets. The Eastern European appetite for dp wares, which has not been satisfied by local industry, has steadily increased over the years. Anxious to take advantage of that appetite for automation are the sales-hungry dp vendors in the West, who view the East as a mouth-watering business opportunity.

Selling to the Eastern Bloc, however, remains a politically sensitive subject. Western governments, fearing that any technology transferred to the East will end up in the hands of the Soviet military, have laid down a plethora of restrictions on dp trade. As a result, dp exports to the Eastern Bloc dropped dramatically last year (see Fig. 1).

The bleak export picture could brighten if the Paris-based Coordinating Committee for Multilateral Export Controls (Cocom) eases up on some of its strict trade regulations. There are in fact signs that Cocom is beginning to realize that some technologies just aren't that strategic anymore. In its last review in 1984, Cocom deregulated 8-bit micros, Digital Equipment PDP-11 minis, and other systems. A review of telecommunications equipment is due in 1988.

Technology, which has become a measure of industrial might, is also turning into a powerful force for achieving international détente. The recent rash of high-tech trading with China is a good case in point. Cocom watchers also predict that the deregulation drive will pick up steam as technology advances ever onward. That means that more and more dp wares could be wiped off Cocom's strategic technologies list.

In the meantime, the dp door to the East opens up only limited opportunities to suppliers of Western wares. East Bloc dp planning is generally based upon the use of computers that are compatible with popular Western models. In the mainframe field, the Ryad series is basically compatible with the IBM 370 range of about five years ago. The Soviets, along with their Eastern Bloc allies in the Council for Mutual Economic Assistance, claim they are making enough of these mainframes to meet their needs.

In the minicomputer realm, the PDP-11 has long been the mainstay of the Eastern Bloc's mini line. The local version of this machine is the SM minicomputer, which has a reputation for being slow and unreliable. Consequently, there's a healthy demand for PDP-11 add-ons and add-ins, as well as for the mini itself. An increasing number of PDP-11s were shipped to such countries as Hungary, Poland, and Czechoslovakia last year after the Cocom embargo was eased.

The Eastern Bloc countries have been slow in developing their own 32-bit minicomputer, dubbed the SM-1400. Early versions of this VAX look-alike have recently been on display at trade shows in Eastern Europe. If the system's internal buses and instruction set are compatible with the VAX, then a new market for licensable add-ons, add-ins, and software could emerge. Production shortages also will probably ensure demand for complete system imports, but licenses will still be tough to get for some time.

MOVES ON THE MICRO FRONT

At the lower end, the Soviet Union in 1983 began limited production of the Agate micro, an Apple II look-alike. Recent developments suggest that the Agate will not be the jewel in the Soviet desktop computing crown. The Russians also made more moves on the micro front last summer when they awarded Japan's Nippon Gakki Co. a $1.2 million (Y300 million) contract for 4,000 Yamaha VIS 503 Mark-88 pcs that will be used in Soviet schools and colleges. Japanese printer maker Star Micronics will package the 8-bit MSX-based micros with its own peripherals, including the Gemini 10X printers.

Star hopes to eventually ship another 100,000 pcs to the Soviets, who are planning to install more than 1 million micros in schools throughout the nation by 1990. The country's computer literacy campaign is an essential element in the Soviet's modernization program.

One area that definitely needs modernization in Eastern Bloc countries is telecommunications. That's not likely to happen very soon, however, since Cocom has already extended the embargo to cover stored program control (SPC) telephone exchanges and local area networks. This doesn't leave Western suppliers with very many telecommunications opportunities, unless they have stockpiles of older switch-

PHOTOGRAPH BY STEVE COOPER

The Agate micro will not be the jewel in the Soviet desktop computing crown.

es that they want to get rid of.

The sales outlook in the mainframe sector also is not very favorable. Prospects are much better in the mini and micro fields. In fact, Sord Computer got the okay from Cocom in August to export eight 16-bit pcs to Poland. The Japanese company is negotiating similar pc pacts with Albania, Bulgaria, and Hungary.

Special peripherals and software represent another sales opportunity for dp suppliers wanting to do business with the Eastern Bloc. In terms of applications, office automation is out, while manufacturing, CAD, and process control systems are in. Eastern Bloc nations still consider office automation and word processing to be "soft" technology applications.

Once a supplier has picked the product to be peddled in the East, then comes the tricky task of actually getting the business. East Bloc trading specialist Barry Martin of CC Travel in London advises companies to "get the tail to wag the dog." That tail is the end user. "Deal as much as possible with customers and get them to to put pressure on the foreign trade organization [FTO]. All you do," he says, "should be geared to cultivating end users."

An FTO gets involved in the sales process at a certain stage. In the USSR, the most massive Eastern Bloc market, FTOs are government bodies that operate under the direction of the Ministry of Foreign Trade. The FTOs that oversee dp trade are the Technopromimport, which handles industrial technology; the Mashpriborintorg, which covers machine tools; the Techmashimport, which deals with various technical systems; and the Electronorgtekhnika, which is in charge of computers and electronics. Familiarly known as Elorg, this is the most important FTO for dp traders.

The FTOs in the Soviet Union are good at tying up would-be sellers in an endless stream of bureaucratic red tape. East-West traders recount horror stories about how they had to spend hours fruitlessly waiting in FTO offices. Sometimes the process can be speeded up through early visits with Soviet Chamber of Commerce officials who work at the local embassy.

In the end, the most effective sales approach is to make direct contact with end users (see box). This is easier said than done. While most computer specialists in the USSR avidly follow the major developments in the worldwide data processing industry, the average Soviet end user may not know how to obtain Western wares.

The most common way to get in touch with end users is through seminars, symposia, or exhibitions that are held at

FIG. 1

HARDWARE* EXPORTS TO THE EASTERN BLOC

COUNTRY	U.S.S.R.			OTHER EASTERN BLOC COUNTRIES		
	1982	1983	1984	1982	1983	1984
	(IN $M)			(IN $M)		
Austria	4.0	6.6	3.3	10.0	11.3	15.8
Finland	8.4	18.0	6.7	0.6	2.2	0.06
France	10.2	11.9	4.1	6.5	4.9	6.7
West Germany	8.2	7.8	11.4	12.8	8.2	11.3
Italy	3.7	1.3	2.5	1.9	1.3	0.9
Japan	4.3	4.2	1.6	2.2	12.1	1.9
Norway	5.1	4.1	1.3	1.0	0.4	0.1
U.K.	19.8	9.5	2.8	11.5	10.9	10.0
U.S.	2.6	0.09	1.0	8.0	7.0	6.2
TOTAL:	66.3	63.5	34.7	54.5	58.3	53.0

Compiled by John Aczel

*Includes complete systems, cpus, peripherals, spare parts, and accessories.

REACHING EASTERN END USERS

The most effective way to get in touch with end users in the Eastern Bloc is through trade shows or seminars. But beware: both approaches can be expensive and time-consuming. Adding up all the charges for such things as travel, accommodations, and shipping, an average stand at an Eastern Bloc exhibition costs around $20,000.

High-tech traders who want something even more expensive and prestigious can go to the Mezhdunarodnaya, a modern complex of hotels and offices that offers facilities for exhibitions, seminars, and conferences. The Mezh, as it is familiarly known, is run by the Sovin-Center, which can put together a complete package for a private show.

One-company shows can also be arranged by the U.S.-USSR Trade & Economic Council, universally known as ASTEC because of its telex answerback code. The council has offices opposite the wedding cake-style Ukraina Hotel on Kutuzovsky Prospekt in Moscow.

Both the Sovin-Center and ASTEC can provide seminars, small exhibitions, lunch buffets, or evening receptions. Good crowds are almost guaranteed, since these foreign trade specialists send out invitations to end users and the appropriate foreign trade organizations (FTOs) that are involved in all Soviet sales. Vendors that sign up for these shows and seminars should come prepared to hand out plenty of freebies like pens and lighters. More important, they should have lots of technical and sales brochures in Russian.

While Soviet hardware engineers are pretty adept at converting displays and printers to the Cyrillic character set, a company would be wise to do these modifications itself, particularly on the equipment it plans to demonstrate. The Soviets will probably interpret such moves as a sign of a vendor's serious desire to serve local customers. Those local customers will be impressed and flattered, especially since an invitation to any type of trade show is still considered a privilege by most Russian end users. After attending the show, these users must file a report with their firms and with the FTOs.

Sometimes the State Committee for Science & Technolgy will organize a special event for a company that has a particularly innovative product. This rarely happens, so firms that feel they have something unique may want to propose an article on their wares to a local technical journal. Over 33,000 technical journals are published in the Soviet Union each month. These publications also provide companies with a low-cost advertising channel. High-tech traders should also develop their own lists of companies and institutes in the USSR to which they can send mailings.

—D.H.

"Tell the Russians we'll take 100,000 balalaikas if they make up the value in fur coats and caviar."

regular intervals in the Soviet Union.

A contact made during one of these exhibitions or seminars frequently leads to a request for more information. If this information is of genuine interest, then negotiations over the technical details usually begin. These talks can take anywhere from a few months to several years. Indeed, first-time computer sales can take as long as three years to be finalized in the Soviet Union.

The technical discussions concern the system configuration and other more mundane matters such as computer room layout, cabling, and air conditioning. The end-user organization needs all the technical details to get the proposed system included in procurement plans for the following year. This is the way the Soviet planning system works.

Luckier end users may already have been granted funds that are not tied to a specific purchase agreement. Some end users may also turn up at a trade show with "exhibition money" burning a hole in their pockets. The resulting negotiations can be conducted quickly and the deal can be closed rapidly if a supplier immediately applies for an export license.

BOGGED DOWN BY RED TAPE

Such fortuitous sales situations, however, are few and far between. That means that, in most cases, Western traders usually end up getting bogged down in the bureaucratic process. When the technical talks with the end user are over, the proposal is submitted to the appropriate FTO, which begins to haggle over the price. FTOs expect to pay around 125% of the list price in the West. So if a supplier starts by quoting a price set at 150%, the FTO will knock off the 25% difference and everybody's happy. The FTO also works with the foreign supplier to establish payment terms and delivery schedules.

When a deal has finally been struck between the vendor and the FTO, an export license can be applied for. A license is granted by the trade authority in the country that exports the goods. If the hardware was originally manufactured in the States or is of American origin, then a supplier must also get a reexport license from the U.S. government.

The rules on granting export licenses established by Cocom are subsequently embodied in national legislation. All export applications are reviewed on the basis of two main Cocom criteria—the sophistication of the technology and its potential end use in the USSR. Any agreement made with a Soviet customer should therefore include specific mention of export licensing matters. This should cover a supplier when it comes to a license delay or denial. In the U.S., for example, it can take one to 12 months to process an export license application.

Special training provisions are also always included in dp sales contracts with the Soviet Union because suppliers simply cannot support end users in the same direct way that they can in the West. The training, whether for hardware or software, can be conducted in the USSR if a similar installation exists. Otherwise, it's best to go abroad, which means that the Soviet trainees must get visas, a process that could take several months.

PREPARE WELL IN ADVANCE

Preparations for both training and installation must be made well in advance. An early survey of the installation site is a good move, since any necessary changes will take time. Also, if equipment modifications are needed, it's best to make them prior to the final shipment. Delivery of that equipment or software is either direct to the Soviet Union or through an intermediary country such as Finland or Austria. It's also worth noting that Soviet customs agents are less troublesome than their Western counterparts.

The sales agreement must also spell out the responsibilities of all parties involved with the installation and specify the procedures and criteria for accepting the system. Such things as visas, hotels, and travel all have to be worked out in advance. Visitor visas normally take two weeks to process, but the paperwork can be speeded up if the customer is directly involved.

Getting paid isn't a major concern, since Eastern Bloc users tend to be good about settling their debts. Part of the contract can be invoiced when the exported wares have crossed the border. The remaining amount can then be paid when the system has finally been installed and accepted. In most of the data processing deals conducted via Finland, payments are made in convertible currency or in "clearing rubles."

Invoicing and payments are made through the same facilities that are used in foreign trade in the West—letters of credit, banker's transfers, and checks. The amount is usually paid in U.S. dollars, British pounds, or other hard currencies. But if it's a big contract, a "counter purchasing" deal may be proposed by the FTO, which offers, say, 140,000 Russian balalaikas in return for a computer system.

What do you do with 140,000 balalaikas? First of all, you go to a special broker who, after researching the Western market for this type of musical instrument, comes back with a counteroffer that could go something like this: "Tell them we'll take 100,000 balalaikas if they make up the rest of the value in fur coats and caviar." That's how Pepsi-Cola broke into the Soviet market—by agreeing to sell Russian vodka in the States. The U.S. probably got the best of that deal.

Once a dp pact is signed, the system needs to be supported. The warranty becomes effective when the system is formally accepted by the Soviet customer. Warranty periods range from six to 12 months, depending on the equipment. A word of warning: a standard warranty may not be acceptable.

A year after the warranty expires on a successful system, the end user is usually given money to upgrade and acquire spare parts, so strong after-sales support could result in long-term benefits. Eastern Bloc customers are also very loyal and follow-on sales to these users are much easier to negotiate and process.

Nevertheless, first-time sales are the hardest. In some cases, it may be better to go through a local company to get started. These firms, which usually get a 10% to 15% commission, will consider working for lower percentages if they are hired on a fixed retainer basis. This is actually a good way to make an initial foray with minimum risk.

High-tech traders evaluating those risks must also weigh the potential rewards of doing business in the Eastern Zone. Those rewards, however, can only be reaped by suppliers who are prepared to be patient and play by the rules promulgated by governments on both sides of the East-West fence. At the end of the day, it's up to these vendors to decide whether it's worth all the trouble and time it takes to see those red sales in the sunset. ◉

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Vendors are trying to reposition themselves to take advantage of the changes in a mercurial market.

EUROPE'S SOFTWARE SCENE

by John Lamb

Software and services companies are taking center stage in the ever-evolving dp arena. Trying to take advantage of this pivotal position, European vendors began searching last year for new ways to capitalize on the constant changes in a mercurial market.

"We see increasing profits from a range of new activities," points out Doug Eyeions, director general of the European Computing Services Association (ECSA). "What's uppermost in our minds is the question of how to manage change and reposition ourselves in the market. Software houses have to become systems houses, bureaus must turn themselves into network services companies, and so on."

These transformations have been dictated by market trends. Some of these trends could be spotted last year in the European software/services sector, where revenues shot up 20% to around $13 billion. Software firms, swimming with the changing market tides, also saw a surge in sales of packages for pcs.

The clamor for networking wares and the growing popularity of open operating systems such as Unix also provided new marketing opportunities for Europe's software sellers. Hardware vendors also began courting these companies last year, encouraging them to develop software to exploit their machines.

There are good reasons for hardware vendors to pay homage to the software industry. "Increasing distribution costs per unit, which are largely due to falling hardware prices, force suppliers and manufacturers to seek new distribution channels," contends Wolfgang Stuerwhold, head of VDRZ, West Germany's services industry association. Computing services companies, he explains, are "increasingly recognized as suitable partners that can offer a complete hardware and software solution in addition to consultancy and training."

Whether the independent companies producing that software are leading the way or being led by the nose by hardware suppliers is a different matter. Hardware vendors that are increasingly relying on these third parties to help them move their boxes are also getting more directly involved in the software business.

Take for example IBM, with its Information Network Services subsidiary that leads the field with European revenues of roughly $250 million in 1984. IBM, which hopes to expand that business significantly this year, has begun in the States to bundle software with its PC and has introduced its own mouse-style Top View program. These moves are strong evidence that the mighty company is expecting a lot of hard cash from the software market in the near future.

That market for personal computing software was an important source of revenues last year for firms in Europe and the U.S. Cashing in on the demand for pc software, however, hasn't been all that easy for some European software houses. Most of the packages sold with pcs are American. There are few best-selling programs produced on European soil.

The one exception has been Micro Focus in Britain. Micro Focus, which has built up a good reputation in microcomputer software, scored $16 million in sales last year. Many of those sales were made outside Europe, which put the U.K. company in the seventh place position on the list of leading software exporters.

Most European companies that haven't had the success of Micro Focus are more accustomed to winning six-figure contracts from large customers. As a result, they usually aren't able to service a volume market. Many of these firms also have captive customers among local government authorities or national agencies that have a penchant for awarding contracts for large custom projects. For example, Europe's largest indigenous services company, Finsiel of Italy, is closely tied to government-controlled interests, which makes much of its business automatic. The fastest grower on the European software/services scene, Finsiel pulled in $156 million last year (see Fig. 1).

HOLDING ON TO TRADITION

Even the independent European software companies are wary about breaking away from their traditional custom business. "We are very, very cautious," explains Jean Noel Gorge, marketing director of Cap Gemini Sogeti (CGS) in France. "We are not willing to compete with the VisiCorps of this world. We'd probably be better off buying one of those companies with cash if we wanted to go into microcomputer software. Hundreds of micros are muscling into organizations. The problem is that it is the users who buy them. The best approach for us is to be a commercial advisor—to run micro centers along the lines of IBM's information center."

Nevertheless, the large custom software houses in Europe realize they are missing out on the action in packaged products. And there was plenty of that action last year, according to the latest ECSA

While packaged software steams ahead, the smokestack sectors continue to decline.

FIG. 1
THE FASTEST MOVERS IN EUROPEAN SERVICES

RANK	COMPANY		1984 ERP. DP REVS. ($ MIL.)	% CHANGE IN AAC
1	Finelei	Italy	156.0	43.2
2	Scicon	U.K.	142.1	41.4
3	Cap Gemini Sogeti	France	150.4	30.4
4	Thorn EMI	U.K.	242.7*	28.2
5	Ciel	France	145.9	12.0

*Includes some revenues from other activities.
Source: DATAMATION

FIG. 2
WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET

	1984 MARKET VALUE ($ MIL.)	% SHARE
HARDWARE MANUFACTURERS		
Packaged Software	2,231	17
Custom Software/Consulting	560	4
Subtotal	2,791	22
SYSTEM HOUSES		
Packaged Software	615	5
Custom Software/Consulting	741	6
Subtotal	1,356	10
INDEPENDENT VENDORS		
Packaged Software	1,161	9
Custom Software/Consulting	2,382	18
Subtotal	3,543	27
TRAINING	566	4
FACILITIES MANAGEMENT	84	1
PROCESSING SERVICES		
Local Batch	1,526	12
Remote Problem Solving	1,380	11
Remote Autotransaction	1,705	13
Subtotal	4,611	36
TOTAL	12,951	100

Source: European Computing Services Association

survey, which reports that packaged software accounted for 31% of the European software/services market. To make the most of this bounty, some European software firms have set up special groups to find out which of their wares are suitable for packaging.

For instance, Scicon in the U.K. has formed its Sisco subsidiary that will scour the company for custom software that could be packaged to have an international appeal. Scicon's parent company, British Petroleum, may spend up to $125 million over the next five years to fund the operation.

Across the channel in France, CGS is also thinking along similar lines. The company has produced a set of commercial applications packages that come in the form of modules that are sold with source code to experienced users. Around 400 customers are already using the modules in France. CGS assembles the modules to a customer's specifications, supplying them without maintenance or other extras. "They have a 'Polaroid' effect, explains CGS marketing director Gorge. "We give customers the box and they come back to buy 'film' from us. We see an increased demand for this more industrialized approach, especially among low-end customers."

While packaged software steams ahead, the smokestack sectors of the software/services industry—remote and local batch processing and data entry—continue to decline. Nonetheless, processing services still account for 36% of European software/services revenues, according to ECSA (see Fig. 2).

NETWORK SERVICES OPENINGS

The dwindling sales on the batch processing and timesharing front are being offset by new marketing opportunities that have opened up in network services. Those opportunities are being taken advantage of in France, where Pierre Dellis, chief administrator of Syntec, the local services and trade association, reports that "in spite of the increased cost of transmission, network application software grew very strongly in 1984."

Meanwhile in Britain, the liberalization of value added networks (vans) dangles a tempting carrot in front of service companies anxious to win contracts from private organizations that are now able to set up their own nets without PTT involvement. That carrot, however, is still out of reach, since the U.K. government hasn't made up its mind about how the van licenses will be issued.

So far, ICL, through its services subsidiary Baric, is the only company in the U.K. that has started working on a network of any size. IBM, which would dearly love to become enmeshed in the U.K. network scene, was turned down on its bid to enter England's vanguard with British Telecom. The U.K. government felt the duo would dominate the value-added network business with their net, which wouldn't conform to open systems interconnection (OSI) standards.

In any case, IBM has promised to provide OSI gateways on its systems and networks.

IBM's would-be partnership with BT was part of a broader trend toward teamups and takeovers that was very much in evidence last year. Denmark's Christian Rovsing was rescued by ITT, British consulting company EPS was snapped up by Thorn EMI, and also in the U.K. Systems Programmers was taken over by Systems Designers. Employees at French firms OSI,

"It's difficult for software companies to devote their resources to medium- and long-term development."

Sesa, TITN, Answare, and Syseca also found themselves with new bosses last year—this time government-controlled ones.

American companies were also on the acquisition trail in Europe last year. Fueled by General Motors, Electronic Data Systems has quickly established itself as a force to be reckoned with on the European services scene. EDS took over Unilever Computer Services, an offshoot of the giant conglomerate. Other U.S. firms that started to make their mark on the European software/services market included Dun & Bradstreet and its McCormack & Dodge subsidiary.

But the traffic is not all one way. French firms, which are among the leading software/services companies in Europe, can count on strong Stateside sales. CGS, which has the largest worldwide turnover of any European software company, gets 27% of its $206 million revenue from its U.S. subsidiary, DASD. Britain's Systems Designers also increased its American interests by acquiring Warrington Associates of Minneapolis.

Last year the European Economic Community (EEC) also played its part in trying to draw the local services industry into new business domains. The EEC's splashy Esprit effort and the more downbeat Multi-Annual Program have tried to encourage scores of European software firms to explore such fields as expert systems, computer aided manufacturing, and the complex realm of software engineering.

NOT TOO MANY TAKERS

There haven't been many takers. John Wells, managing director of Logica's Brussels office explains why: "It is very difficult for companies in the software business to devote their resources to medium- and long-term development. In that respect, I don't think that the [European Economic] Community programs help very much. The grants don't contribute greatly to basic work. They just cover our overheads. But you have to add in the cost of collaborating with a couple of other firms."

Nevertheless, there can be little doubt that Esprit and the other national artificial intelligence (AI) programs such as Alvey in the U.K. and Konzept in Germany help focus software firms on research and development. Logica, for example, has set up a $2.25 million AI research center in Cambridge, England. The company also claims that it has forged closer links with the academic community as a result of its AI activities.

This AI activity is all well and good, but Logica's Wells worries that the various state-funded research schemes are diverting scarce resources away from more workaday and commercial projects in fields like electronic mail, machine translation systems, and document delivery. "We are getting a lot fewer invitations to tender for programs outside Esprit," he comments.

The market for such AI products as expert systems is admittedly still minuscule. The combined U.S. and U.K. market for expert systems software amounted to only $21 million last year, according to research firm Ovum, which sees no bonanza coming from this fledgling field until the 1990s at the earliest.

"Real growth [in expert systems]," Ovum reports, "will be limited by the availability of knowledge engineers and the rates at which successful applications can be implemented."

The availability of people with the right qualifications is also a continuing headache for most computer services firms. The 20% growth in European software/services revenues in 1984 was accompanied by a 10% increase in employment in this sector.

Leading the field in employment was Belgium, which expanded its software/services payroll by 25%. Following close on Belgium's heels was the Netherlands, which boosted employment in the local software/services industry by 20%.

Most of these new hires were made on the marketing and sales side, where employment was up 16%. That employment trend is expected to continue this year, as companies gear up to cope with the new markets and new industry pressures. While 1984 could be classified as a year of transformation for many of Europe's software/services companies, 1985 will be a year that will test their mettle and show just how effective they've been in changing to meet the new challenges. ◉

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